

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Venkat Selvamanickam

Title: HIGH-THROUGHPUT EX-SITU METHOD FOR RARE-EARTH-BARIUM-COPPER-OXIDE (REBCO) FILM GROWTH

App. No.: 10/736,223 Filed: December 15, 2003

Examiner: Brian K. Talbot Group Art Unit: 1792

Customer No.: 34456 Confirmation No.: 3138

Atty. Dkt. No.: 1014-SP165-US RCE filed: April 3, 2007

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Mail Stop Appeal Brief - Patents  
The Board of Patent Appeal and Interferences  
Commissioner for Patents  
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**REPLY BRIEF**

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This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)(1)):

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The final page of this brief bears the representative’s signature.

**I. STATUS OF CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))**

Claims 1-5 and 7-19, all of which are rejected and remain pending herein. Claim 6 is canceled. Each of claims 1-5 and 7-19 is hereby appealed by Appellants.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))

A. Appellant respectfully requests review of the rejection of claims 1-5, 8-13, and 15-18 under 35 U.S.C 103(a) over US Pat. 6,794,339 (hereinafter “Weismann”) in combination with either US Pat. 4,962,085 (hereinafter “deBarbadillo”) or US Pat. 5,206,216 (hereinafter “Yoshida”) further in combination with US Pat. 5,653,806 (hereinafter “Van Buskirk”) further in combination with US Pub. 2005/0014653 (hereinafter “Reeves”).

B. Appellant respectfully requests review of the rejection of claim 7 under 35 U.S.C. § 103(a) over Weismann in combination with either deBarbadillo or Yoshida further in combination with Van Buskirk further in combination with Reeves further in combination with US Pat. 6,774,088 (hereinafter “Manabe”) or US Pat. 6,083,885 (hereinafter “Weinstein”).

C. Appellant respectfully requests review of the rejection of claim 14 under 35 U.S.C. 103(a) over Weismann in combination with either deBarbadillo or Yoshida further in combination with Van Buskirk further in combination with Reeves further in combination with US Pat 5,279,138 (hereinafter “Ott”).

## III. REPLY TO EXAMINER'S ARGUMENTS

Independent claims 1 and 12 recite a process for producing long lengths of a layered superconductor including translating a coated tape through a precursor conversion zone at a rate of at least 10 meters per hour. It is recognized that the conversion step in an *ex-situ* process occurs significantly more slowly than the deposition of an *in-situ* process. See, page 4 line 16 through page 5 line 1 of the Present Application, Weismann at col. 4, lines 20-22, and Yoshida at col. 2, lines 60-69. Further, in order to produce a quality HTS film, it is necessary for the precursors to be exposed to the conversion zone for sufficient time to convert the precursor film to the HTS film when using the *ex-situ* process. One of ordinary skill in the art would have understood that increasing the translation rate reduces the amount of time the precursors are exposed to the conversion zone and can lead to incomplete conversion of the film. Thus, one of ordinary skill in the art would not have had a reasonable expectation of success when using the claimed translation rate through a precursor conversion zone when using an *ex-situ* process.

The USPTO relies upon Reeves for teaching of a translation rate of at least 10 meters per hour. However, Reeves discloses translating through a deposition zone at a rate of between 0.3 meters/hr and 10 meters/hr, rather than translating through a conversion zone as claimed. See Reeves at paragraph [0063]. Further, Reeves states this translation rate is particularly adapted for *in-situ* use. See Reeves at FIGs 9-12 and paragraph [0072]. While Reeves states the embodiment could be adapted for an *ex-situ* system, Reeves does not disclose or suggest the adaptation would allow for a translation rate of at least 10 meters/hr through a conversion zone for an *ex-situ* process. Rather, due to the slower conversion process, one of ordinary skill in the art would expect the translation through the conversion zone to be slower than the high end of the range disclosed by Reeves for translation through a deposition zone for an *in-situ* process. Thus, Weismann, deBarbadillo, Yoshida, Van Buskirk, and Reeves, fail to teach, suggest or provide proper motivation for translating the coated tape through a precursor conversion zone at a rate of at least about 10 meters per hour, as claimed.

As such, the USPTO has failed to make a *prima facie* case of obviousness at least in part because Weismann, deBarbadillo, Yoshida, Van Buskirk, and Reeves, fail to teach, suggest or provide proper motivation for each and every element of the claims.

#### IV. CONCLUSION

For at least the foregoing reasons, Appellants respectfully request the Board to reverse the grounds for rejection that are the subject to appeal.

Respectfully submitted,

September 24, 2010

/David A. Schell/

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Date

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